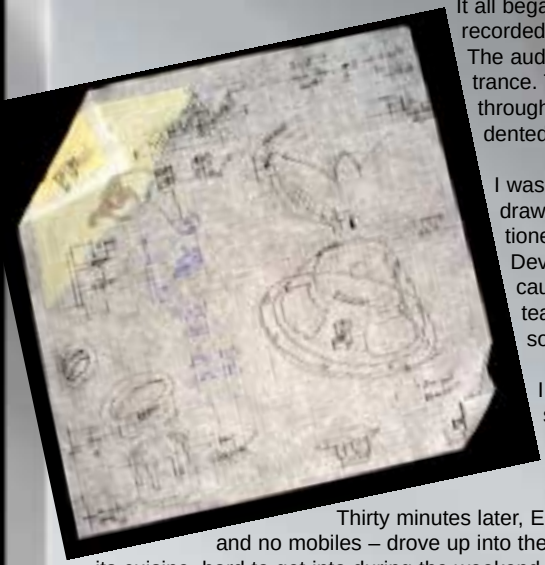
Extreme series

Extreme Story



It all began at a Jan Garbarek concert: an electrifying show, recorded for their live album.
The audio quality was superlative, I listened to it as if in a trance. Then a challenging question struck me halfway through the concert: “why not try developing an unprecedented high-end speaker system?”

I was ready to do battle to get this challenge onto the drawing board and so the next day I immediately mentioned it to Emilio, chief of Macrom’s Research & Development department. Embarrassed like a kid caught red-handed, Emilio confided that he and his team had secretly been working on the idea for some time.

I felt very excited. But how can one concentrate on such a highly creative project while sitting in the office dealing with the thousands of everyday tasks?

Thirty minutes later, Emilio and I – with notebook, pen, heaps of ideas and no mobiles – drove up into the Swiss hills. Destination: a restaurant famous for its cuisine, hard to get into during the weekend but quiet on the other days.
By 3 p.m. when the waiters had begun hinting that although hospitality is sacred, it also has its time limits, the first sketch of what were to be the Extremes was down on paper.

After that day, we spent whole weeks talking during the day and thinking at night. But our project was having trouble getting past the embryonic state – we were at a standstill.

And then a stroke of genius suddenly hit us during one of our by-then-habitual brainstorming sessions at the restaurant. “Fred, what’s the best tweeter?” Emilio asked me point-blank. “Our 57.16S” - I replied - “because it has unbelievable frequency response and acoustic performance.”
Emilio was of the same mind and stressed that its resonance volume and other innovative solutions made it virtually unique.
However, I reminded him that the 57.16S was difficult to install due to its large size.

After a brief silence, Emilio whispered as if to himself: “OK then, that means we’ll have to make a 57.16S with a neodymium magnet to keep it small, and with a removable resonance chamber!”
I could have hugged him: that’s how the idea of the Extreme tweeter was born.

The woofer was also conceived during a lunch break. Emilio drew it on a paper napkin and I can testify that it was very similar to the final model you find today.

The guidelines for the Extreme System were now set out: the speaker had to have a basket relatively open at the rear to obtain a more brilliant, color-free sound, and had to be built in the usual sizes: 165, 130 and 100 mm.

As concerns the 165 mm model, I insisted it be optimized to produce good bass tones even if installed in the door and Emilio straightaway said: “I agree, Fred. And that’s why I’m looking to develop a truly special speaker. I’ve got a revolutionary idea in my head…”. And so he explained his ideas to me: it would be possible to concentrate the best dynamic and timbre performance of the entire system in a single speaker (two 165 mm midwoofers and a 100 mm midrange in each door) by judiciously optimizing the Thiele and Small parameters, making the performance extreme only in that part of the frequencies involved, and by using a special cone.

You think that’s easy? Just to come up with the right cone, we and the R&D team developed almost 100 speaker prototypes in 165, 130 and 100 mm sizes, combined with numerous magnetic circuits and various voice coils. We rejected the idea of testing by computer right from the start – music computers don’t understand a thing! – and decided to rely strictly on our own sensations. At the end of the day, we chose the magnesium cone and a 32 mm voice coil. Why? The answer is easy: because magnesium is an excellent material and the performance is out of this world.
After a few more nights of tests and counter-tests, we were ready to try out the first prototype in a car.

It was such a rainy day that it seemed as if the sky was dropping on our heads. I won’t hide the fact that the weather only inspired us with the grimmest pessimism.
We hooked up the speakers to a Synthesis amplifier and began with a number by James Newton Howard.
Emilio and I got goose bumps: the sound was simply exceptional, with the sound-scenario sculpted so well in front of us that we felt we were at the concert with James. It was a hugely realistic live concert experience, exceeding all our rosiest expectations.

Only the crossover was missing.
When I suggested using the specially built passive filter that I had used for the IASCA competitions, Emilio laughed right in my face, saying that that crossover – as big as a car – was simply ridiculous, although he did admit it put out an excellent sound.

And so, we selected the best components (polypropylene capacitors, air-wrapped inductors, etc.) and developed a truly special crossover, so special and spectacular that we enclosed it in a Plexiglas housing.

It took us 18 months of hard work to develop the Extremes. And then we camped out for hours and hours in the Macrom demo room to compare the music of our Extremes with that reproduced by the competitors’ speakers.
But that’s another story.

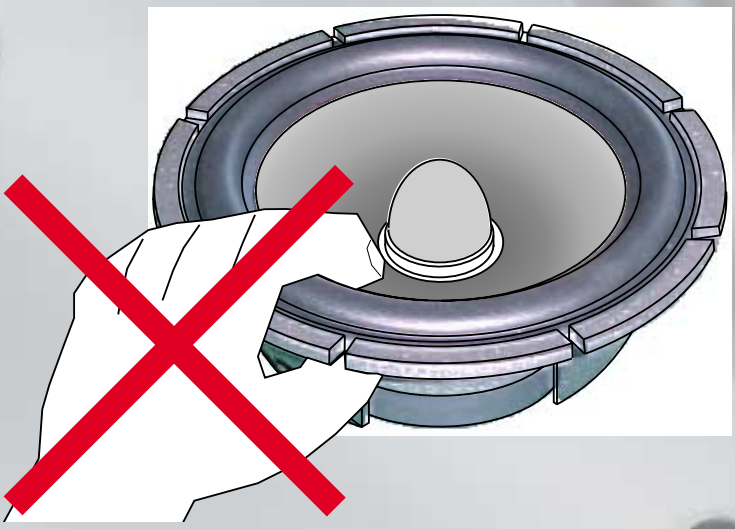
Installation

The Extreme speakers use the Magnesium cone technology: they are very delicate to the touch and for this reason we protect the cone with a transparent cover.

If you remove the transparent cover handle the speaker with great care.

Once the cover is removed, Macrom do not accept the speaker cone under warranty.

Take care to keep all dirt, metal cuttings and other debris clear of the speaker during the installation procedure.

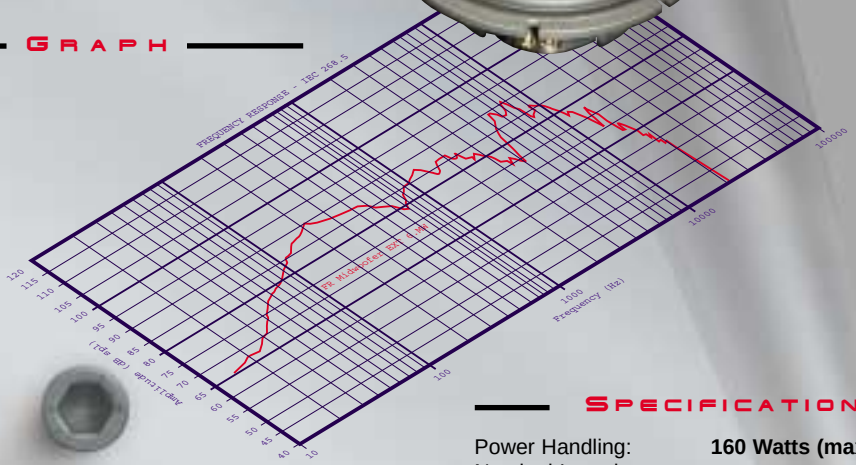


Under no circumstances the cone, with hands, tools or other things.

Extreme

EXT6.0MW

Graph



Specifications

Power Handling:	**160 Watts (max. music)**
Nominal Impedance:	**4 ohm**
Frequency Response:	**60-4.000 Hz**
Sensitivity (2.83V/1m):	**90 dB**

Unit Size	**ø -160 mm (6 1/2")**
Installation depth:	**67 mm**
Voice Coil:	**ø - 32 mm (1.25")**
Cone Material:	**Magnesium**
Magnet System:	**Barium**
Nett Weight (per piece):	**1.15 Kg**

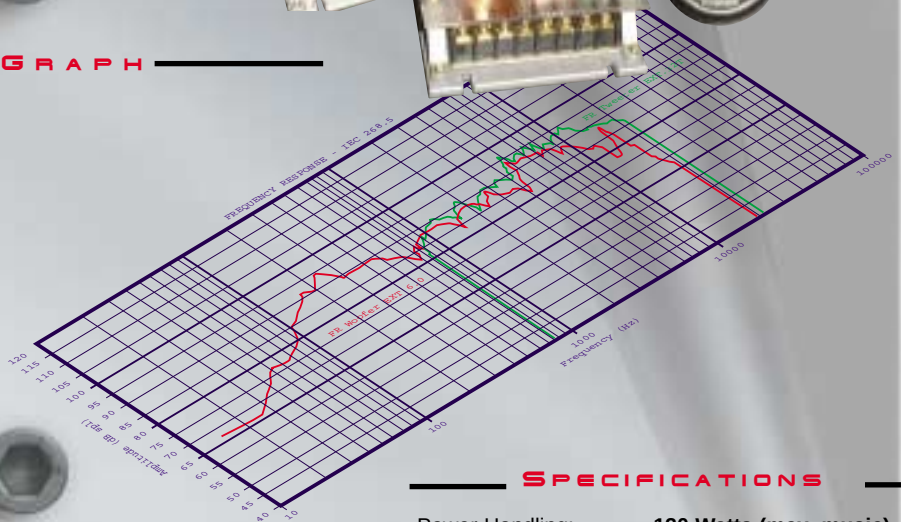
Resonant Frequency:	**72 Hz**
Dc Resistance:	**3.40 Ohm**
X-Max Linear Excursion:	**8 mm**
Force Factor (BXL)	**20.76 tm**
Qms:	**3.83**
Qes:	**1.734**
Q/Ts:	**1.19**
Cms:	**429 µM/N**
Total Moving Mass:	**483 gr**
VAS:	**18 Liters**

MACROM

Extreme

EXT4.0

Graph



Specifications

Power Handling:	**120 Watts (max. music)**
Nominal Impedance:	**4 ohm**
Frequency Response:	**50-25.000 Hz**
Sensitivity (2.83V/1m):	**89 dB**

WOOFER

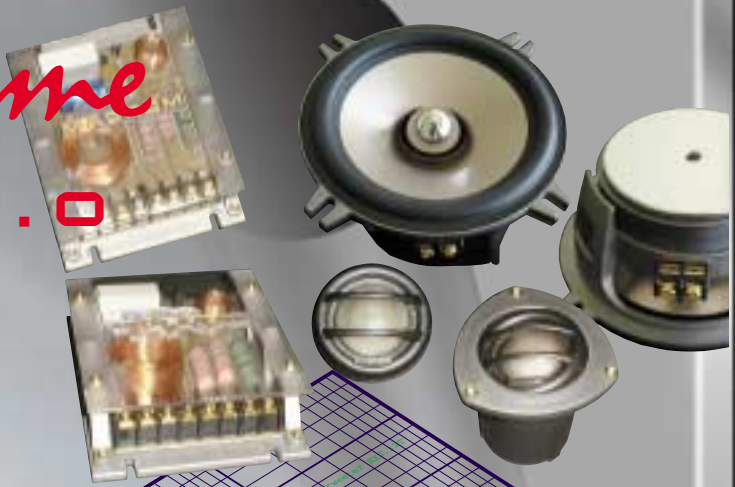
Unit Size	**ø -100 mm (4")**
Installation depth:	**44 mm**
Voice Coil:	**ø - 25 mm (1")**
Cone Material:	**Magnesium**
Magnet System:	**Barium**
Nett Weight (per piece):	**0.530 Kg**
Resonant Frequency:	**116 Hz**
Dc Resistance:	**4.0 Ohm**
X-Max Linear Excursion:	**6 mm**
Force Factor (BXL)	**24.96 tm**
Qms:	**5.15**
Qes:	**1.30**
Q/Ts:	**1.04**
Cms:	**173 µM/N**
Total Moving Mass:	**278 gr**
VAS:	**9 Liters**

TWEETER

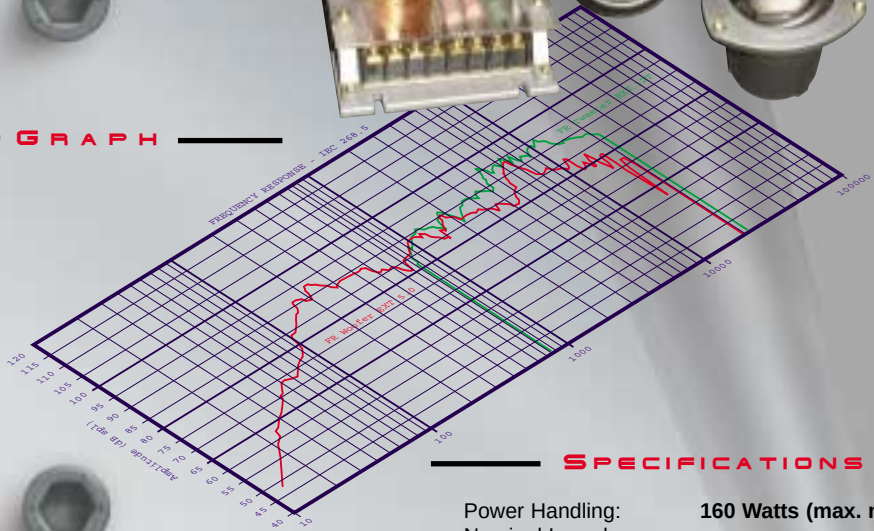
Unit Size	**ø - 48 mm**
Voice Coil:	**ø - 32 mm (1. 25")**
Dome Material:	**Soft Fabric**
Magnet System:	**Neodymium**
Nett Weight (per piece):	**0.096 Kg**
Resonant Frequency:	**1.300 Hz**
Impedance:	**5 Ohm**
Dc Resistance:	**4.6 Ohm**

Extreme

EXT5.0



Graph



Specifications

Power Handling:	**160 Watts (max. music)**
Nominal Impedance:	**4 ohm**
Frequency Response:	**45-25.000 Hz**
Sensitivity (2.83V/1m):	**90 dB**

WOOFER

Unit Size	**ø -130 mm (5")**
Installation depth:	**55 mm**
Voice Coil:	**ø - 32 mm (1. 25")**
Cone Material:	**Magnesium**
Magnet System:	**Barium**
Nett Weight (per piece):	**0.955 Kg**
Resonant Frequency:	**84 Hz**
Dc Resistance:	**3.90 Ohm**
X-Max Linear Excursion:	**8 mm**
Force Factor (BXL)	**30.44 tm**
Qms:	**4.26**
Qes:	**0.85**
Q/Ts:	**0.71**
Cms:	**167 µM/N**
Total Moving Mass:	**383 gr**
VAS:	**12 Liters**

TWEETER

Unit Size	**ø - 48 mm**
Voice Coil:	**ø - 32 mm (1. 25")**
Dome Material:	**Soft Fabric**
Magnet System:	**Neodymium**
Nett Weight (per piece):	**0.096 Kg**
Resonant Frequency:	**1.300 Hz**
Impedance:	**5 Ohm**
Dc Resistance:	**4.6 Ohm**

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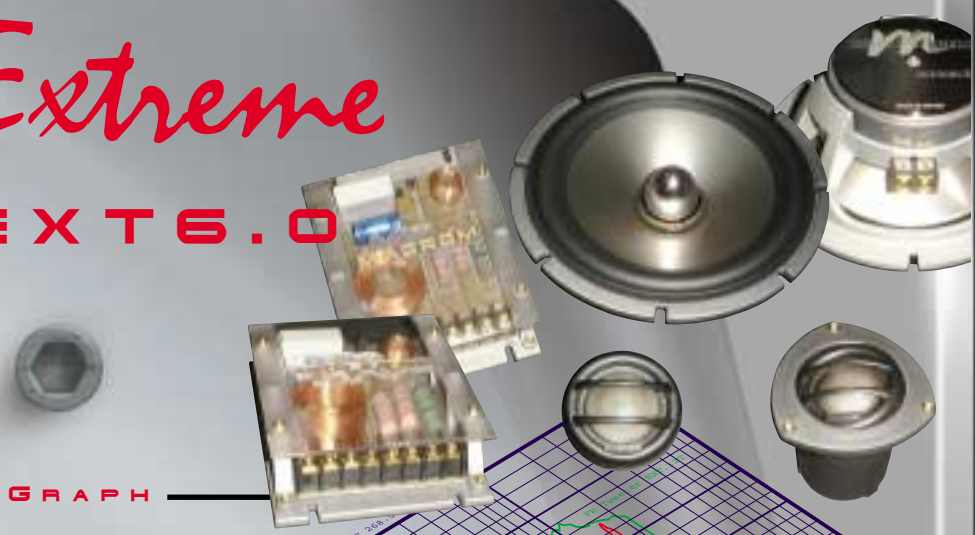
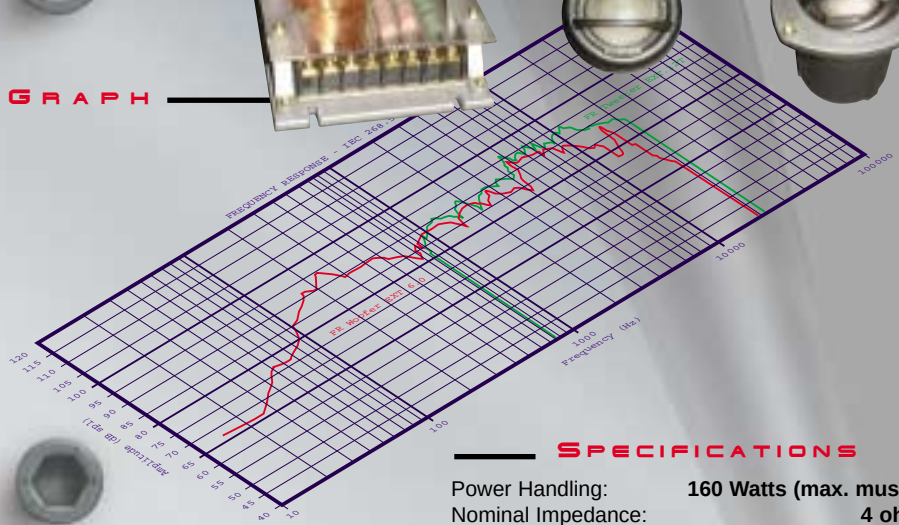
Extreme

EXT6.0



Graph



Specifications

Power Handling:	**160 Watts (max. music)**
Nominal Impedance:	**4 ohm**
Frequency Response:	**40-25.000 Hz**
Sensitivity (2.83V/1m):	**90 dB**

WOOFER

Unit Size	**ø -165 mm (6 1/2")**
Installation depth:	**60 mm**
Voice Coil:	**ø - 32 mm (1. 25")**
Cone Material:	**Magnesium**
Magnet System:	**Barium**
Nett Weight (per piece):	**1.070 Kg**
Resonant Frequency:	**75 Hz**
Dc Resistance:	**3.80 Ohm**
X-Max Linear Excursion:	**8 mm**
Force Factor (BXL)	**27.91 tm**
Qms:	**3.73**
Qes:	**1.12**
Q/Ts:	**0.86**
Cms:	**323 µM/N**
Total Moving Mass:	**486 gr**
VAS:	**14 Liters**

TWEETER

Unit Size	**ø - 48 mm**
Voice Coil:	**ø - 32 mm (1. 25")**
Dome Material:	**Soft Fabric**
Magnet System:	**Neodymium**
Nett Weight (per piece):	**0.096 Kg**
Resonant Frequency:	**1.300 Hz**
Impedance:	**5 Ohm**
Dc Resistance:	**4.6 Ohm**

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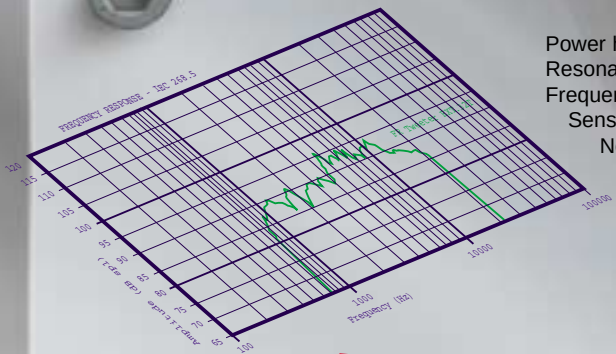
Extreme

EXT.32T

Specifications

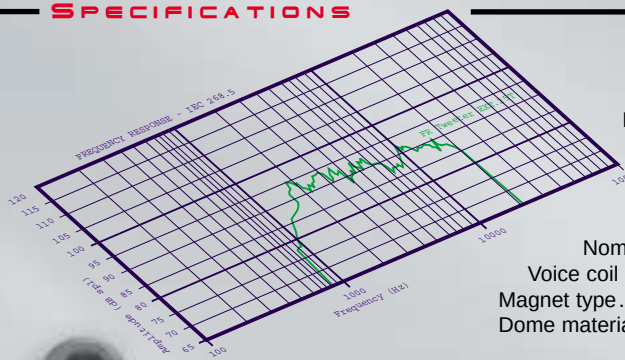


Power handling.....120 Watts
Resonant frequency.....1.300Hz
Frequency response.....1.500-22.000Hz
Sensitivity.....91dB
Nominal impedance.....5 ohms
Voice coil diameter.....32 mm (1")
Magnet type.....Neodimium
Dome material.....Select soft linen

Extreme

EXT.25T

Specifications



Power handling.....100 Watts
Resonant frequency....1.700Hz
Frequency response..2.500-22.000Hz
Sensitivity.....91dB
Nominal impedance.....5 ohms
Voice coil diameter.....25 mm (1")
Magnet type.....Neodimium
Dome material.....Select soft linen

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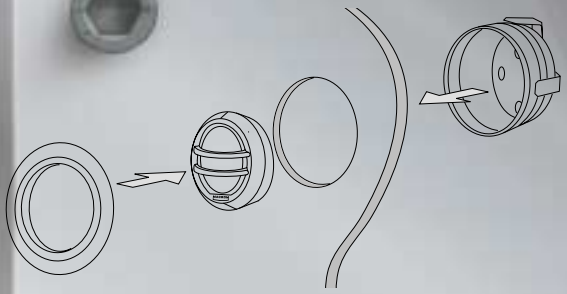
Extreme

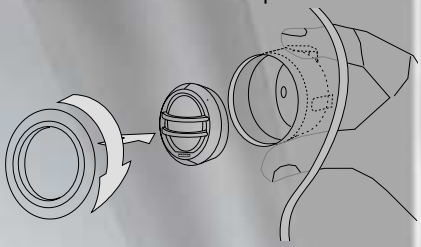
EXT.32T

These speaker units have been designed specially for use as part of a car audio system.
Correctly installed they will provide hours of listening pleasure.
Take care to keep all dirt, metal cuttings and other debris clear of the speaker during the installation procedure.
NOTE: These unit is made to be used as a tweeter in an audio system. NEVER connect it without using the correct capacitor/condenser/filter when installing these units as part of the system.

Flush Mounting



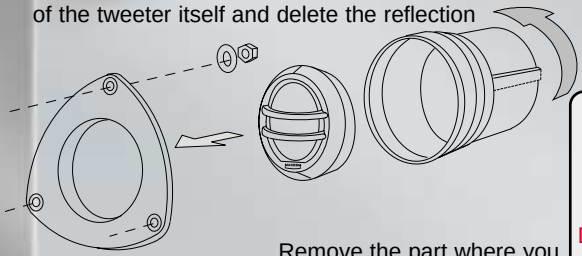
Remove the part where you need to fit the tweeter and drill a 59-mm hole in the required position.
Insert the Tweeter into the back plate and screw it on the faceplate.



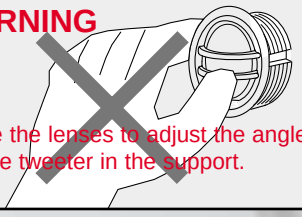
NOTE:
Before screwing the face place, you need to adjust the sprung steel behind the back plate.
By checking the thickness of the part where you need to fix the tweeter, adjust the space between the faceplate and sprung, using the screw in the middle of the back plate.

Flush Mounting with rear chamber

The rear chamber is designed to increase the excellent performance of the Ex 32tw. Coupling the tweeter with a large rear air chamber, reduces the resonance frequency of the tweeter itself and delete the reflection with the woofer.

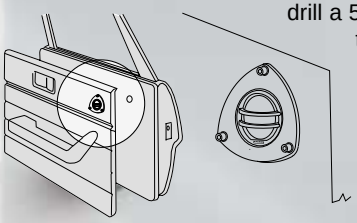


WARNING



Do not use the lenses to adjust the angle of the tweeter in the support.

Remove the part where you need to fit the tweeter and drill a 59 mm hole in the requied position.



Insert the Tweeter into the rear chamber and screw it on the triangle face plate. (connect cable through rear chamber access and put again the sponge filter into the rear chamber)
Use the supplied screws (3MAx12) to fix the face plate on to the desired position.

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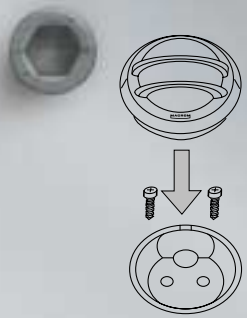
Extreme

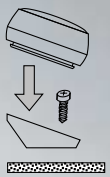
EXT.25T

These speaker units are designed specially for use as part of a car audio system.
Correctly installed they will provide hours of listening pleasure.
Take care to keep all dirt, metal cuttings and other debris clear of the speaker during the installation procedure.
NOTE: These unit can be used as a tweeter in an audio system. NEVER connect it without the correct capacitor/condenser/filter when installing these units as part of the system.

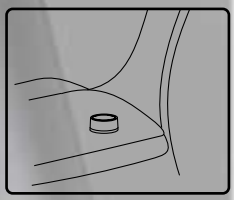
Surface Mounting



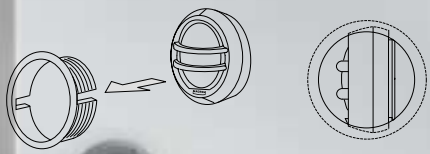
Using the back-plate as a template, mark and drill the 2 screw centres and cut/drill the cable access.



Fix back-plate into the location and place the Tweeter in the back-plate

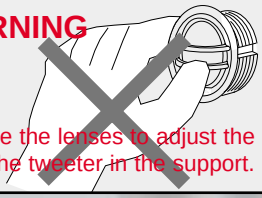


Flush Mounting



We recommend you to fit the tweeter in the face plate at 90° respect to the face plate itself.

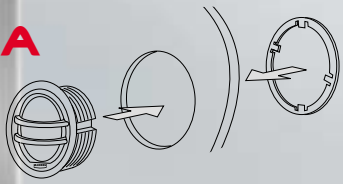
WARNING



Do not use the lenses to adjust the angle of the tweeter in the support.

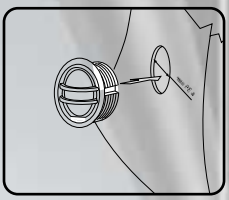
Flush Mounting

A

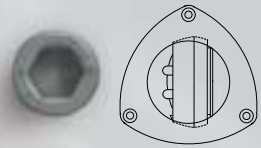


Remove the part where you need to fit the tweeter and drill a 43mm hole in the required position.

Insert the Tweeter into the hole from the front and fix it from behind using the look washer.

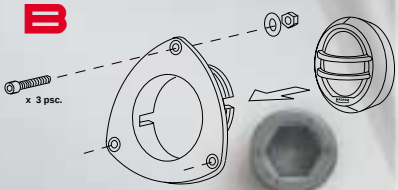


Insert the face plate into the hole from the front and fix it using the three screw s



We recommend you to fit the tweeter in the face plate at 90° respect to the face plate itself.

B



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Due to continuing product improvement, the features and the design are subject to change without notice. 06.2001

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